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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FAN, CHIEH M	
ART UNIT	**PAPER NUMBER**
2638	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/975,404	BLANKENSHIP ET AL.	
	Examiner	Art Unit	
	Chieh M. Fan	2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 19-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6,8,9,19-22 and 24-28* is/are rejected.

7)☒ Claim(s) *2,5,7,23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office is in response to the amendment filed 7/12/05. In the amendment, claim 8 has not been amended, but labeled as "currently amended". The applicants' intention is not clear.

Specification

1. The disclosure is objected to because of the following informalities: the mathematical expression on page 6 is hard to read. The formula shown in the remark filed 7/12/05 is not sufficient to overcome the objection. An amendment in the specification is required.

Appropriate correction is required.

Claim Objections

2. Claim 5 is objected to because the meaning of the limitation "determining a value step number of the metric values" is not clear to the examiner. The applicants are invited to point out which portion of the specification is referred as the claimed "value step value". Claim 23 is also objected for the same reason.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 20, the specification does not enable the means for initializing a training recursive for the current window based on the at least one metric value as claimed. The "at least one metric value" is the value to be computed for the current window. That is, the "at least one metric value" is obtained after the training recursion. It is not clear how to initialize the training recursion based on a value obtained after the training recursion.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 22 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "the processed metrics values" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "the index of the metrics values" in line 5. There is insufficient antecedent basis for this limitation in the claim. It appears that the limitation "means for determining an index of the at least one metric" in line 2 should be changed to --- means for determining an index of the metric values --- to overcome the rejection.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 3, 4, 6, 8, 9, 19, 21, 22, 24, 26 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Classon et al. (U.S. Patent No. 6,856,657, "Classon" hereinafter)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1 and 19, Classon teaches a method for processing an information sequence with an iterative decoder (see claim 1, col. 9, lines 40-67), comprising: dividing the information sequence (step (a) in claim 1) into a current window (2 in Fig. 6) and at least one additional window (1, 3 in Fig. 6), selecting the current window of the information sequence (2 in Fig. 6); and computing at least one metric value for a current recursion of the current window based on metric values from another window of the information sequence (step (e) in claim 1) in a previous iteration, wherein the another window is from the at least one additional window. (Classon teaches that the method iterates from step (b) to (g), see claim 9, and the information is divided in step (a). Therefore, the partition of the data windows is not changed with the iterations. That is, the another window of the current iteration is from a past iteration).

Regarding claims 3 and 21, Classon further teaches processing the metric values from the additional window of the information sequence (see steps (c)-(e) of claim 1, that is, the method decodes the current window using a forward recursion starting from the known state, i.e., metric values, at the beginning of the current window determined in step (c)).

Regarding claim 4 and 22, Classon further teaches storing the processed metric values (14 in Fig. 7).

Regarding claim 6 and 24, Classon further teaches assigning the metric values from the additional window of the information sequence (see steps (c)-(e) of claim 1,

that is, the method decodes the current window using the known state, i.e., metric values determined in step (c) to initialize a forward recursion at the beginning of the current window).

Regarding claims 8 and 26, Classon teaches a method (see claim 1, col. 9, lines 40-67) for processing an information sequence, comprising selecting a current window of the information sequence during a current iteration (1 or 3 in Fig. 6), selecting an additional window of the information sequence (2 in Fig. 6), wherein the additional window is for a future iteration (Classon teaches that the method iterates from step (b) to (g), see claim 9, and the information is divided in step (a). Therefore, the partition of the data windows is not changed with the iterations. That is, the additional window of the current iteration is for a future iteration), recursively computing a metric value for the current window (see claim 1, step (b) or (c)); and processing the metric value for the current window for use in the additional window (see claim 1, step (e)).

Regarding claims 9 and 27, Classon further teaches storing the processed metric values (14 in Fig. 7).

9. Claim 28 is rejected under 35 U.S.C. 102(e) as being anticipated by Xu (U.S. Patent No. 6,829,313).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Xu teaches a turbo decoding system comprising: at least one interleaver (INT in Fig. 8); at least one de-interleaver (DEINT in Fig. 8); at least one decoder; (SISO I or SISO II in Fig. 8); the at least one decoder comprises: means for dividing an information sequence into a current window and at least one additional window (see step (a) in claim 1); means for selecting the current window of the information sequence (see step (b) in claim 1); and means for computing at least one metric value for a current recursion of the current window based on metric values from another window of the information sequence (see step (d) in claim 1), in a previous iteration, wherein the another window is from the at least one additional window (Xu teaches that the method iterates from step (b) to (g), see step (h) of claim 1, and the information is divided in step (a). Therefore, the partition of the data windows is not changed with the iterations. That is, the another window of the current iteration is also from a previous iteration).

Allowable Subject Matter

10. Claims 2, 5, 7 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Note that claims 5 and 23 also need to overcome the claim objections in Paragraph 2 above.

Response to Arguments

11. Applicant's arguments filed 7/12/05 and 4/04/05 have been fully considered but they are not persuasive.

On page 8 of the remark filed 4/04/05, the applicants argued that all recursion metric values in Classon and Xu are derived from a current iteration. The applicants then concluded claims 1, 19 and 28 are in condition for allowance.

Response --- The applicants apparently argued that since the recursive metric values Classon and Xu are derived form the current iteration, Classon and Xu do not teach computing at least one metric value for a current recursion of the current window in the current iteration based on the metric values of another window that were recursively computed in a previous iteration. However, such difference is not recited in the claims. The claims only broadly recite "computing at least one metric value for a current recursion of the current window based on metric values from another window in a previous iteration". The claims only broadly limit the limitation "another window" by "in a previous iteration". As explained above, the partition of the data windows in Classon or Xu is not changed with the iterations. That is, the additional or another window of the current iteration is also from a previous iteration. Also note that since there is no argument made with respect the rejections to claims 8 and 26 and claims 8 and 26 have not been amended (in claim 26, the replacement of "additional" with "another" does not change the scope of the claim), the rejection of claims 8 and 26 are thus maintained. Further, it is also noted the metric value is recited only in association with the current

window in the current iteration in claims 8 and 26. The argument on page 8 does not apply to claims 8 and 26.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M. Fan whose telephone number is (571) 272-3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chieh M Fan
Primary Examiner
Art Unit 2638

October 1, 2005